

WHAT IS CLAIMED IS:

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1. A data transmission apparatus comprising:
a spread spectrum processing part that performs a
spread spectrum process on an input signal;

10 an analog-to-digital conversion part that performs
an analog-to-digital conversion process on a signal that
has undergone said spread spectrum process; and

an inverse spread spectrum processing part that
performs an inverse spread spectrum process of said spread
spectrum process on a signal that has undergone said
15 analog-to-digital conversion process.

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2. The data transmission apparatus as claimed in
claim 1, wherein said spread spectrum process is performed
using a predetermined PN sequence.

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3. The data transmission apparatus as claimed in
claim 2, wherein a PN sequence number of said PN sequence
is set to a value that is adequate for substantial
30 improvement in the precision of said analog-to-digital
conversion process so that transmission data contained in
the input signal can be detected with predetermined
precision.

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4. The data transmission apparatus as claimed in claim 1, further comprising:

a gain controlling part that performs a signal gain controlling process on an input signal, wherein

5 said spread spectrum processing part performs a spread spectrum process on a signal that has undergone said signal gain controlling process.

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5. A power line carrier communication system comprising:

15 a power line functioning as a data transmission path for transmitting data; and

a data transmission apparatus that terminates said power line, said data transmission apparatus comprising:

a spread spectrum processing part that performs a spread spectrum process on an input signal;

20 an analog-to-digital conversion part that performs an analog-to-digital conversion process on a signal that has undergone said spread spectrum process; and

25 an inverse spread spectrum processing part that performs an inverse spread spectrum process of said spread spectrum process on a signal that has undergone said analog-to-digital conversion process.

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6. A data transmission method comprising:

a spread spectrum processing step of performing a spread spectrum process on an input signal;

35 an analog-to-digital conversion step of performing an analog-to-digital conversion process on a signal that has undergone said spread spectrum process; and

an inverse spread spectrum processing step of

performing an inverse spread spectrum process of said spread spectrum process on a signal that has undergone said analog-to-digital conversion process.

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7. The data transmission method as claimed in claim 6, wherein said spread spectrum process is performed using a predetermined PN sequence in said spread spectrum processing step.

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8. The data transmission method as claimed in claim 7, wherein a PN sequence number of said PN sequence is set to a value that is adequate for substantial improvement in the precision of said analog-to-digital conversion process so that transmission data contained in the input signal can be detected with predetermined precision.

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9. The data transmission method as claimed in claim 6, further comprising:

a gain controlling step of performing a signal gain controlling process on an input signal; wherein

30 said spread spectrum process of said spread spectrum processing step is performed on a signal that has undergone said signal gain controlling process.